

Appl. No. 10/790,720
Amendment dated: August 26, 2005
Reply to OA of: April 26, 2005

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-27(canceled).

28(currently amended). A method for producing a transgenic swine whose somatic and germ cells comprise transgenes, comprising the steps of:

(a) constructing (i) an expression genetic insert that comprises two transgenes wherein [[the]] DNA sequences of said transgenes encode human clotting factor IX (hFIX) and porcine lactoferrin, respectively, wherein both transgenes are operably linked to a mammary gland specific promoter, or (ii) two expression transgenes, wherein one comprises a DNA sequence of transgene encoding human clotting factor IX (hFIX) operably linked to a mammary gland specific promoter, the other comprises a DNA sequence encoding porcine lactoferrin operably linked to a mammary gland specific promoter;

(b) introducing said expression transgene or transgenes into a swine embryo;

(c) transplanting said embryo comprising said expression transgene or transgenes into a synchronized recipient; and

(d) allowing said embryo to develop into a transgenic swine, wherein expression of said transgenes result in the production and secretion of hFIX and porcine lactoferrin on the mammary tissue of said swine.

29(currently amended). The method according to claim 28, wherein [[if]] two expression transgenes are to be introduced into a swine embryo, a step of mixing said expression transgenes is further added before step (b).

30(previously presented). The method according to claim 28, wherein said transgenes are passed onto offspring throughbreeding.

31(previously presented). The method according to claim 28, wherein in step (a)(ii), the ratio of said two expression transgenes is 1:1.

32(currently amended). The method according to claim 28, wherein each of said mammary gland specific promoter is bovine α -lactalbumin promoter.

33(previously presented). The method according to claim 28, wherein the production and secretion of porcine lactoferrin on the mammary tissue of said swine act as an immune modulator, which can help boost the immunity and resistance of nursing offspring, reducing their diarrhea condition and fighting inflammation.

34(previously presented). The method according to claim 28, wherein said production and secretion of hFIX and porcine lectoferrin on the mammary tissue of said swine last stably over lactation.

35(previously presented). The method according to claim 28, wherein after step (d), further comprise the steps of:

- (e) collecting milk from said transgenic swine; and
- (f) isolating hFIX and porcine lactoferrin from said milk.

36(new). A method for producing a transgenic swine whose somatic and germ cells comprise transgenes, comprising the steps of:

- (a) constructing (i) an expression plasmid that comprises two transgenes wherein the DNA sequences of said transgenes encode human clotting factor IX (hFIX) and porcine lactoferrin, respectively, wherein both transgenes are operably linked to a mammary gland specific promoter, or (ii) two expression transgenes, wherein one

comprises a DNA sequence of transgene encoding human clotting factor IX (hFIX) operably linked to a mammary gland specific promoter, the other comprises a DNA sequence encoding porcine lactoferrin operably linked to a mammary gland specific promoter;

(b) transferring said expression plasmid by gene injection or embryonic implantation into a swine embryo;

(c) transplanting said embryo comprising said expression transgene or transgenes into a recipient; and

(d) allowing said embryo to develop into a transgenic swine, wherein expression of said transgenes result in the production and secretion of hFIX and porcine lactoferrin on the mammary tissue of said swine.

37(new). The method according to claim 36, wherein when two expression transgenes are to be introduced into a swine embryo, a step of mixing said expression transgenes is further added before step (b).

38(new). The method according to claim 36, wherein said transgenes are passed onto offspring through breeding.

39(new). The method according to claim 36, wherein in step (a)(ii), the ratio of said two expression transgenes is 1:1.

40(new). The method according to claim 36, wherein said mammary gland specific promoter is bovine α -lactalbumin promoter.

41(new). The method according to claim 36, wherein the production and secretion of porcine lactoferrin on the mammary tissue of said swine act as an immune modulator, which can help boost the immunity and resistance of nursing offspring, reducing their diarrhea condition and fighting inflammation.

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42(new). The method according to claim 36, wherein said production and secretion of hFIX and porcine lactoferrin on the mammary tissue of said swine last stably over lactation.

43(new). The method according to claim 36, wherein after step (d), further comprise the steps of:

- (e) collecting milk from said transgenic swine; and
- (f) isolating hFIX and porcine lactoferrin from said milk.